Global Interactive Electronic Technical Manual (IETM) Standards for the DoD

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Interactive Electronic Technical Manuals (IETMs) for the DoD

An IETM is a package of information needed for the **operation, maintenance, training, and logistic support of a weapon system**, optimally arranged and formatted for interactive screen presentation to the end user on an electronic display system.

US DoD IETM Standards Shortfall

- **US DoD IETM specs badly out of date**
  - MIL-PRFs 87268 and 87269; over 10 years old
  - Inadequate for newer technologies including migration to web-based delivery
- **Perry Memorandum Called for Commercial Specs (where possible)**
  - US DoD Specs not maintained
  - No suitable Industry Specs available meeting military requirements
- **Program Managers Must Individually Produce IETM Requirements Documents**
  - IETMs become stove-piped within Programs
  - This Practice ties the Program to specific and expensive contractor-unique solutions

Warfighter IETM Requirements (Interoperability for Joint Operations)

- JLC Memo to DUSD(L) of 10 June 1997, on IETM Interoperability
  - "A uniform approach which will permit dissimilar DoD weapon system IETMs, regardless of source, to be read and viewed on a common user interface system."
- JCG-CE Memo to ADUSD(LA) of November 2001, asking for international IETM standards
  - The effort, "if taken to a satisfactory conclusion, will further the goals of the JCG-CE by establishing an international standard to view and access IETM data… International IETM Standards will provide an opportunity to enhance support of Joint, Allied, and coalition Operations."

“Recent” IETM Standards Actions

- **US MIL-HDBK-511 (May 2000) Provided an Interoperability Framework**
  - Includes only interoperability and core user interface requirements, no content requirements
  - No specification issued to implement it; no updates planned
- **European AECMA maturing their S1000D specification for IETMs (V9 - Apr 2001)**
  - Best candidate for IETM content
  - Lacks advanced interactivity functionality
  - Regular updates and new issues planned

Emerging consensus: AECMA S1000D the Best Candidate for an International IETM Specification

DSPO Sponsored Active US DoD Participation in S1000D Review and Development

- Participated in Assessment of Current IETM Shortfalls and Alternative Solutions
- Participated in Joint DoD/Industry Selection of S1000D
- Facilitated Team Participation of Services and AIA
- Analysis of Technical Issues Needing Standardization, Identifying Six Technical Issues for S1000D, Change 10
- Represented US Interest in Defining Spec 1000D Extension Requirements
- Conducted Tri-Service IETM Technology Working Group Reviews

Tri-Service IETM Technology Working Group

- **Chartered:** DUSD(L) on 24 Aug 1989
- **Purpose:** Foster exchange of ideas and agree on a common approach regarding acquisition of IETMs
- **Membership**
  - **Navy (Chair)** - Naval Surface Warfare Center Carderock Division, Bethesda, Maryland
  - **Army** - USAMC Logistic Support Activity, Huntsville, Alabama
  - **Air Force** - USAF Integrated Digital Environment Program Office, WPAFB, Dayton, Ohio
  - **Marine Corps** - Marine Corps Systems Command, Quantico, Virginia

Tri-Service IETM Technology Working Group Defined Major US Technical Issues on Specification S1000

- Common Web-Enabled Linking Mechanism
- Intelligent Interactive Functionality
- Web-Enabling Criteria for Interoperability of Non-Standard IETMs and other Legacy Data
- XML Methodology for Developing Interoperable Interactive Run-Time Modules from SGML Source Data
- Metadata Standardization and Creation
- Numbering and Data Model Standards

AIA Leads US Technical Efforts

- Aerospace Industries Association (AIA) also concurred that S1000 is best candidate for international standard
- AIA established formal project to support international collaboration efforts
  - Provided Active Participation by Principal Military Suppliers
  - AIA took technical lead for the US with Services' support
  - Highly Leveraging DoD Investment (To date, AIA provided approximately 200 work-weeks of labor and 60 trips of domestic/international travel)

US AIA and European AECMA Agree to Substance of MOU on S1000

AIA Headquarters, Washington D.C., Nov 2002

US Active in S1000 Executive Decisions

AIA Headquarters, Washington D.C., Nov 2002

- Developed and clarified unique U.S. technical contributions
- U.S. engaged in detailed editing of

US Provides Major Technical Input to S1000

- Major U.S. update on Interactive Functionality as input to Chapters 3 & 7 of S1000 (Nov 02)
- Establishment of U.S. EPWG (Nov 02)
- Major U.S. input

Tri-Service IETM Technology WG Addresses US Requirements in S10000

Washington D.C. Dec 2002

- Coordinated DoD “Look & Feel” Requirements for Chapter 6 of S1000

- Reaffirmed U.S. approach for S1000 adoption, and

Continuing US DoD Efforts on S1000

- Assure US technical requirements are met and S1000 Spec (including DTDs) is suitable for Service use through technical review, and followed by pilot testing
- Insertion of US required changes into AECMA /AIA S1000 review and update schedule
- Active participation in EPWG and Land, Sea & Air WGs
- Continued Tri-Service IETM Technology WG review leading to DoD adoption of S1000

Bottom Line

- S1000D Can Meet US DoD needs and can be adopted as a valid IETM specification for DoD use
- It is more cost effective than duplicating efforts to develop & maintain a new, or update an old DoD spec
- S1000D Change 10 (possible renamed Release 2) will be issues mid-2003 with US input included
- 12 month change/update cycle planned
- US Services must participate to ensure compliance with US needs and suitability for Service use
- Continued Testing and Prototyping is still needed to ensure US needs are met